

Cellular Reservoir Flexible Pressure Vessel, Apparatus and Method for Making Same

Earlier Filed Application

The instant application is a continuation-in-part of applicant's prior application filed
5 November 13, 2002 and having serial number 10/294,825, ^{now patent No. 6,796,453} ~~and currently pending~~, the
disclosure of which is specifically incorporated by reference herein.

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Field of Invention

The invention pertains to devices for storing gases and fluids under pressure. More
10 particularly, the invention relates to pressure vessels that are formed out of flexible materials
and that can be made to conform to a variety of shapes.

Background of the Invention

Typically, pressure vessels capable of containing liquids or gases at significant
15 pressures have involved fixed shape cylinders or spheres formed of high-strength metals such
as steel or aluminum. Such pressure vessels, while successful for their designed applications,
involve a number of problems. First, such metallic cylinders are relatively heavy compared to
the gases or fluids that they contain. Second, pressure cylinders contain all of the gas or liquid
in a single space. Should the vessel rupture, the entire vessel is destroyed, often with a violent
20 explosion sending shards of metal in all directions. Third, metallic cylinders have a definite
shape and cannot be adapted to fit readily in many space-constrained applications. The
present invention involves a number of small cells of an elongated tubular shape linked to